# LImBuS

Release dev

Aug 08, 2023

## Setting things up

1	Setting things up	3
2	User Guide	9
3	Application Programming Interfaces	29
4	Additional Support	31

This documentation attempts to cover much of the basic functionality of the BIMS.

## CHAPTER 1

## Setting things up

Learn more about configuring or deploying LImBuS.

## **1.1 Deployment Quick Guide**

This page is intended for systems administrators who are experienced with installing web server applications and want to get LImBuS up and running quickly.

This guide makes use of the project's Dockerfile. If you are unable to make use of Docker, then please refer to the full installation guide.

## **1.1.1 Basic Requirements**

Whilst these instructions have been tried and tested on Debian 10 Buster, Docker and systemd both work on pretty much every Linux distribution.

And of course, a working internet connection.

## 1.1.2 Setting up Docker

If you are looking to set up LImBuS, the easiest way to do this is by using the Dockerfile provided in the repository. As I understand that not everybody would have used containers before so....

#### What is a container?

A container is a means of bundling up all of the libraries and runtimes required by an application in order to run without having to worry about versioning or underlying operating system. You're probably thinking to yourself "wow, great! I don't have to do a single thing!" - but that sadly isn't the case. Due to the immutable nature of a container, you're going to have to set up your configuration beforehand - so a bit of work is required on your end in order to get started.

#### **Removing old versions**

First of all, it's always a good idea to remove any old versions of Docker you may have installed:

sudo apt docker docker-engine docker.io containerd runc

There's no need to worry if apt states that none of the above packages are installed as this is just a precautionary step.

#### Setting up the official Docker repository

First of all, run a quick apt update to ensure that Debian's repositories are updated:

sudo apt update

Once that has completed, install the following packages - as so we can use a repository securely over HTTPS:

```
sudo apt install \
  apt-transport-https \
  ca-certificates \
  curl \
  gnupg-agent \
  software-properties-common
```

Depending on your internet connection, this may take a couple seconds to complete. Once it has, add the GPG of the Docker project:

```
curl -fsSL https://download.docker.com/linux/debian/gpg | sudo apt-key add -
```

Now ensure that the key is correct:

sudo apt-key fingerprint 0EBFCD88

Now set up the Docker repository by running:

```
sudo add-apt-repository \
 "deb [arch=amd64] https://download.docker.com/linux/debian \
 $(lsb_release -cs) \
 stable"
```

Once that has complete, update your package index again:

sudo apt update

And now install Docker:

```
sudo apt install docker-ce \
  docker-ce-cli \
  containerd.io \
  docker-compose
```

And now add your user to the docker-group (replacing <your\_user> with your user information:

```
sudo usermod -aG docker <your_user>
```

## 1.1.3 Getting LImBuS

When it comes to getting LImBuS, there are two options available to you:

#### **Download from GitHub**

Simply download your required release from https://github.com/AberystwythSystemsBiology/limbus/releases and extract the files to whichever directory you wish.

#### Version Control (Recommended)

To simplify the upgrade process, we strongly recommend that you retrieve LImBuS using version control.

To get started, install git via the official Debain repositories:

```
sudo apt install git
```

Every release of LImBuS is staged as a branch. You don't really need to know what this is, but it means that an upgrade is only a couple of commands away once you get things up and running.

To retrieve the codebase from the git repository, use the following command - replacing <your\_branch> with whatever staged release you desire:

git clone -b <your\_branch> https://www.github.com/AbersystwythSystemsBiology/limbus

For example, if you would like to try out the development branch for testing purposes - you would simply enter:

git clone -b dev https://www.github.com/AbersystwythSystemsBiology/limbus

And git will retrieve that branch for you.

Note: Please ensure that you only download LImBuS from an official source.

#### **1.1.4 Setting up your environment**

Now it's time to set up your environment. This is done by through the use of a dotenv file.

In the root directory of the project, you can find a .env.sample file. It's strongly recommended that you use this as a starting point:

cp .env.sample .env

Inside of this file you will find a number of environment variables:

- FLASK\_CONFIG= A choice between deployment and production. production disables debugging and stops SQLAlchemy spamming the console.
- POSTGRES\_USER= The username of your PostgreSQL user. If you are using the docker-compose file then this will be used within the db container.
- POSTGRES\_PASSWORD= The password of your PostgreSQL user. If you are using the docker-compose file then this will be used within the db container.

- POSTGRES\_HOST= The database host address of your PostgreSQL server. If you are deploying the project through docker-compose then ensure that the name matches what is found within the docker-compose. yml file (this is usually db).
- POSTGRES\_DB= The database name for of your PostgreSQL server. If you are deploying the project through docker-compose then ensure that the name matches what is found within the docker-compose.yml file (this is usually limbus).
- SECRET\_KEY= A secret key to protect you against XSS. Please change this.
- WTF\_CSRF\_SECRET\_KEY= A secret key to protect forms against XSS. Please change this.
- DOCUMENT\_DIRECTORY= Where you want your encrypted document store to be located. If you are using the docker-compose file, then please ensure that you mount your location appropriately.
- TEMPLATES\_DIRECTORY= Where you want your templates store to be located. If you are using the docker-compose file, then please ensure that you mount your location appropriately.
- DEBUG= If you require debug information. In most deployments this should be set to False.
- DOID\_PATH= Where you want your DOID file to be located. If you are using the docker-compose file, then please ensure that you mount your location appropriately.

Note: Please ensure that all secret keys and passwords are secure.

## 1.1.5 Do it for me

No.

## 1.2 First-time setup

When you first deploy LImBuS, you are required to undertake the first time setup. This is a quick process, which will get you set up with an administrator account, and a base site. A site is a location where samples are collected, processed, and stored. Whilst it it possible to set up multiple sites, the setup procedure only involves setting up one.

After you have deployed LImBuS, navigate to http://your.domain.here/setup, where http://your.domain.here is replaced with your domain. If successful, you should be greeted with the following page:

💫 LIMBUS 🛛 🖌 Samples 👻 \varTheta Donors 👻 🖺 Documents 👻 晶 Storage 👻 🖍 Attributes and Protocols 💌

Sample UUID

# LImBuS Setup Welcome to LImBuS

This is the first time setup page for LImBuS. Before we continue, read the following instructions carefully as to ensure that this as painless as possible



#### Please ensure that you have all required information ready.

During the setup process, we will require you to enter the following information:

Something:

Please ensure that you have all of this at hand before continuing.



#### Check your battery.

The progress of the setup will not be held in the event of a system shutdown.

To ensure that you don't lose all information, check that you have plenty of battery remaining before continuing.



#### Do not close this window down, until told otherwise.

For the reasons given above, do not close your browser window until you have been told otherwise.



LImBuS was developed by researchers from Aberystwyth University



CYMRU NHS WALES WALES

With funding from Hywel Dda University Healthboard

Resources

Report a Problem Documentation Source Code About

Privacy Policy Team License

© AberSystemsBiology 2019-2020

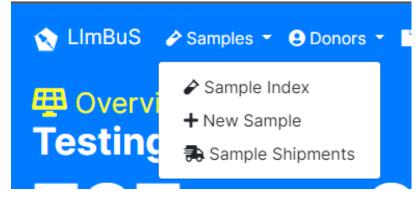
## CHAPTER 2

User Guide

Learn more about configuring or deploying LImBuS.

## 2.1 Sample Portal

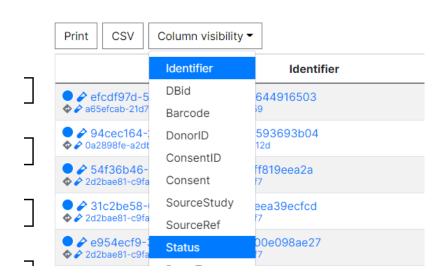
To find the Sample Portal click Samples on the Navigation Bar. You should see a drop down:



Click 'Sample Index'. You should now be greeted with the following page:

<ul> <li>Samples</li> <li>+ New Sample</li> </ul>				
Filters	Print CSV Column visibility -			Search:
Barcode	Identifier 🐴	Status 🔨	Quantity	
		Available	0.01/0.01mL	LIMBR/
Biohazard Level		Pending Review	0.01/0.01mL	LIMBR/
None •	<ul> <li>✓ 0a2898fe-a2db-4598-8d7b-da1c3960b12d</li> <li>✓ 54f36b46-5efa-4a88-bad3-1aff819eea2a</li> </ul>	Transferred	2/2mL	
Base Type	34130340-3613-4800-3603-18113-66228	Transferred	2/21112	E LIVIDRO
None -	<ul> <li></li></ul>	Transferred	2/2mL	II LIMBR/
Sample Type		Transferred	2/2mL	LIMBR/
None •		Transferred	2/2mL	
Colour	●	Transferred	2/2mL	
None 👻	<ul> <li>♦ 2 2d2bae81-c9fa-4e77-87e0-965c79fbfbf7</li> <li>♦ a150555e-1d24-46ca-a48f-98111cdb9943</li> </ul>	Transferred	1/1mL	LIMBR
Sample Source	<ul> <li>♦ a100556e1024*460a*3401*9811(cb)9943</li> <li>♦ d0743be7-fe8d-43c8-beed-89deaa347e8b</li> </ul>		1/ 1111L	E LIVIDR/
None •	<ul> <li></li></ul>	Transferred	1/1mL	LIMBR/
Sample Status	<ul> <li></li></ul>	Transferred	1/1mL	LIMBR/
None -	Showing 1 to 10 of 728 entries	Previous 1	2 3 4 5	

Here you will find all of your viewable Samples, as well as key information about them. If you would like to see more, or less information then feel free to limit the viewable columns using the 'Column Visibility' button found above the Table.



## 2.1.1 Sample Portal Index

#### How can I search the Sample Portal?

If you would like to do simplistic free text search, you can easily do so by using the Search area on the top right of the Sample Index Portal Table:

Print CSV Column visibility  Search: 7cc233b2-7ccb-47d3-be9€										
Identifier 🔨	Status ↑V <sub>⊕</sub>	Sample Type	Container 🛝	Quantity 🛝	Location					
<ul> <li></li></ul>	Transferred	Saliva	Not specified	2/2mL	LIMBRACK-12					

#### How can I filter the Sample Portal?

On the left hand side of the Sample Index Portal, you should find the 'Filter' area. Here you can enter information in which to filter the result of the query that gets the Sample information that populates the Sample Index Portal. This includes:

- Sample Barcode: If the Sample already has a identifier, then enter it here.
- **Biohazard Level:** BSL category for the sample.
- Base Type: One of Fluid, Cell, or Molecular.
- Colour: One of Blue, Red, Green, Yellow, or Grey
- **Sample Source:** One of Available, Destroyed, Unusable, Transferred, Missing, Temporary Storage, Pending Collection, or Pending Review.
- Site: Whichever Site the Sample was collected from.
- Consent Status: The status of the Sample's consent. One of Active or Withdrawn.
- **Consent For:** Multiple of Standard, Electronic Storage, Genetic Tests, Future Samples and/or Available for External Sources.

Once you have selected which filters you want to use, click on the green 'Apply Filter' button and the table will reload with relevant Samples.

## 2.1.2 Sample Registration

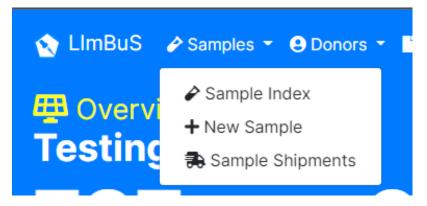
LImBuS facilitates Samples first collection of biospecimens. In basic English, this means that you can enter a sample without the need of adding Donor information.

#### Sample Registration Workflow

The below diagram outlines the steps of how LImBuS collects specimens.



To start entering a Sample into LImBuS click Samples on the Navigation Bar. You should see a drop down:



Click 'New Sample'.

#### Step One: Collection and Consent Information

You should now be greeted with the following form:

# New Sample Step One: Collection and Consent Information

#### Sample Status

Available

#### Sample Biobank Barcode

Enter a barcode/identifier for your sample

#### Colour

Identifiable colour code for the sample.

#### Blue

#### **Collection Protocol**

The protocol that details how the sample was taken.

LIMBPRO-2: TRIAL-SPECIFIC COLLECTION PROTOCOL

Notice: If you are unable to find the suitable collection protocol, it's likely that you have yet to add it. Click here to add a new collection protocol.

:::

Sample Collection Time

11:52

The time at which the sample was collected.

#### **Collection Site**

he site in which the sample was taken	
<1>Testing Biobank - None	

#### Sample Collection Date (\*)

The date in which the sample was collected.

09/02/2022

#### Collected By (\*)

The initials of the individual who collected the sample.

#### **Collection Comments**

Comments pertaining to the collection of the Sample.

#### Patient Consent Form Template

The patient consent form template that reflects the consent form the sample donor signed.

LIMBPCF-8: FREEZER LOG

Notice: If you are unable to find the patient consent form, it's likely that you have yet to add it. Click here to add a new patient consent form.

#### Sample Disposal Instruction

The method of sample disposal.

No Disposal

Sample Disposal Comments

•

(i) View

() Viev

.

**Warning:** You may see a message asking you to add a Consent Form and/or a Collection Protocol. To do this, follow the Protocol / Consent Form documentation and return to this page.

This page allows you to enter information concerning the collection of the Sample:

- **Sample Status:** The status of the Sample at the time of entry. One of Available, Unusable, Missing, Temporary Storage, Pending Collection, or Pending Review.
- Sample Biobank Barcode: If the Sample already has a identifier, then enter it here.
- **Colour:** If you would like to tag the Sample with a colour for easy filtering, then you can here. This defaults to Blue, but can be one of Blue, Red, Green, Yellow, or Grey.
- **Collection Protocol:** The protocol that details how the sample was taken. If you are unable to find the protocol, you have likely not added it. Follow the instructions below the field to add a new Collection Protocol. Refresh the page and your new protocol should be available for selection.
- **Collection Site:** The site in which the sample was taken (either Internal or External sites are available). If you are unable to locate the correct site, please contact your system administrator.
- Sample Collection Date: The date in which the sample was collected. This defaults to today.
- Sample Collection Time: The time at which the sample was collected. This defaults to now.
- Collected By (required): The initials of the individual who collected the sample.
- Collection Comments: Any comments pertaining to the collection of the sample.
- **Patient Consent Form Template:** The patient consent form template that reflects the consent form the sample donor signed.
- **Sample Disposal Instruction:** The method of sample disposal. One of No Disposal, Destroy, Transfer, Review, or Preserve. If a user selects anything besides No Disposal, they will be prompted to enter a **Sample Disposal Date**.
- Sample Disposal Comments: Any comments pertaining to the future disposal of the sample.

Once you're happy with what you've entered, click the green Continue box at the bottom of the form to continue.

#### Step Two: Enter Donor Consent Form Details

You should now be greeted with the following form:

# New Sample Enter Donor Consent Form Details

#### FREEZER LOG

#### Version: Version 1.0 (15.11.21)

Donor Consent Form ID/Code The identifying code of the signed patient consent form.

#### Question 1

Patient has consented to participate in a clinical trial

	Chec	k All
Comments		
Date of Consent		Communicated by
09/02/2022		
Study/Trial Protocol of the study/trial recruiting the donor originally.		
Select a study		

This allows you to digitise a Donor Consent Form, and associate the Sample to a Study/Trial.

- Donor Consent Form ID/Code: If the consent form already has an identifier, enter it here.
- **Answers:** If the donor has agreed to a question, then tick the right checkbox for each question they've consented to. If they've consented to everything, just click the green "Check All" button.
- Comments: Any comments pertaining to the collection of the donor consent form.
- Date of Consent: The date in which the donor had provided consent. Defaults to today.
- Communicated by: The communicator of the donor consent.
- Study/Trail: Protocol of the study/trial recruiting the donor.

Once you're happy with what you've entered, click the green Save box at the bottom of the form to continue.

## Step Three: Sample and Storage Type

You should now be greeted with the following form:

💊 LImBuS 🕜 Samples 👻 😌 Donors 🍷 🖹 Documents 👻 👫 Storage 🍷 🖨 Attributes and Protocols 👻	Sample UUID
New Sample Sample and Storage Type	
Sample Base Type	
Fluid	
Fluid Sample Type	
Blood (whole)	
Quantity (*)	
mL	
Container Base Type	
Primary container	
Primary Container	
Serum seperator tube with clot activator	
Biohazard Level BSL category for the sample.	
Level Two	
Notice: These reference BSL standards. If you are not sure what to select, feel free to refer to this document.	



LImBuS was developed by researchers from Aberystwyth University

CYMRU NHS WALES Bwrdd Iechyd Prifysgol Hywel Dda University Health Board

With funding from Hywel Dda University Healthboard

#### Resources

Report a Problem Documentation Source Code

#### About

**Privacy Policy** Team License

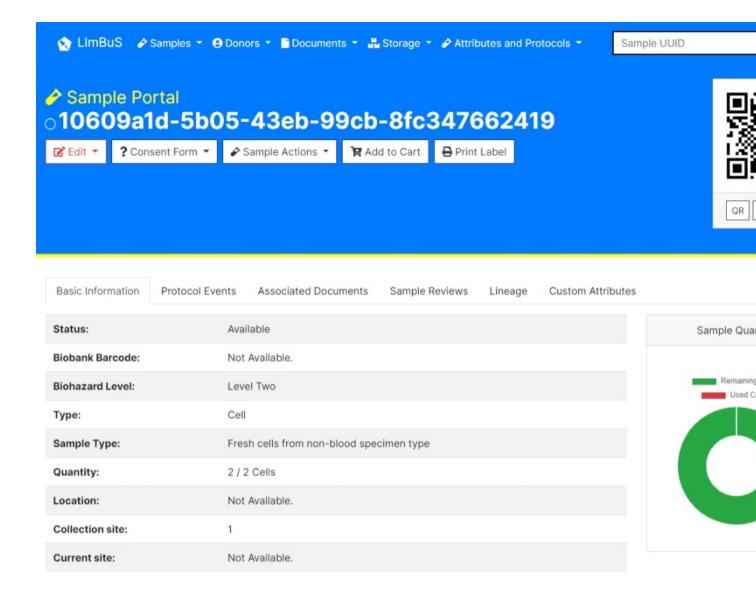
C AberSystemsBiology 2019-2022

This allows you to provide Sample Type and Storage information.

- Sample Base Type: The base type of the sample. One of Fluid, Cell, and Molecular.
- Sample Type Information: This is generated dependent on what Sample Base Type the user has selected.
- Quantitiy: The Quantitiy of the Sample being added to the biobank.
- Container Base Type: One of Primary Container and Long Term Storage
- Biohazard Level: BSL category for the sample. Defaults to Level Two.

Once you're happy with what you've entered, click the green Save box at the bottom of the form to add the Sample to the Biobank.

You should now see that the sample has been added.





LImBuS was developed by researchers from Aberystwyth University

CYMRU NHS WALES Bwrdd Iechyd Prifysgol Hywel Dda University Health Board

With funding from Hywel Dda University Healthboard

#### Resources

Report a Problem Documentation Source Code

C AberSystemsBiology 2019-2022

About

Privacy Policy Team License

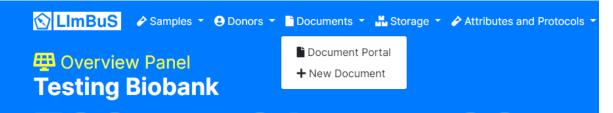
## 2.2 Donor Portal

Something here.

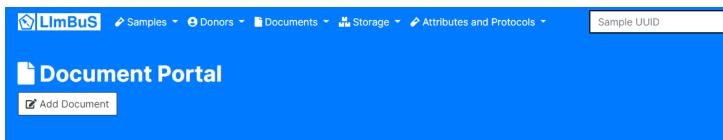
## 2.2.1 Donor Registration

## 2.3 Document Portal

To find the Document Portal click Documents on the Navigation Bar. You should see a drop down:



Click 'Document Portal'. You should now be greeted with the following page:

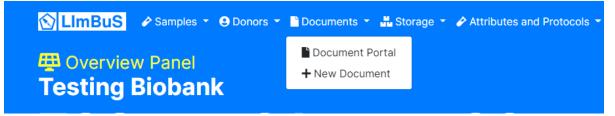


This is the Document Portal. This is where your documents can be found.

Document 1	Document Type	Uploader 🛝	Created On
LIMBDOC-1: test	Other	Chuan Lu 🔘	2021-09-28
LIMBDOC-2: test	Other	Chuan Lu 🔘	2021-09-28

## 2.3.1 Adding a Document

To add a new document, you can either use the 'New Document' button found on the Navigation Bar:



Or, alternatively you can use the 'Add Document' button found within the Document Portal header:

Docum	ent Portal
🗹 Add Document	]

You should now be presented with the following form:

🖄 LIMBUS 🖌 Samples 👻 😌 Donors 👻 🖹 Documents 👻 💾 Storage 👻 🖍 Attributes and Protocols 👻	Sample UUID
Document Portal New Document	
Document Type	
Pathology Report	
Document Name (*) Textual string of letters denoting the name of the document in English	
Document Description	
File Upload (*)	
Choose File No file chosen	

The first thing to consider is the Type of Document. Click on the drop down beneath **Document Type** and identify which type of Document is being uploaded. If you are not sure which one to use, click Other or discuss with your friendly system administrator.

As for the **Document Name**, this can be whatever you want it to be. It's usually a good idea to keep this unique as so you can quickly find it in the future.

The Document Description is optional. It is strongly recommended that you enter what the purposes of the document

......

is as to ensure that all users know exactly what the document is used for.

Once you've completed those, you can **upload** whichever file you so please. Click on the grey area to pull up a File Explorer, or simply drag and drop a file to it.

Now click the green button at the bottom to submit the form.

Once you have finished, you should be redirected to the newly created Document:

🖄 LIMBUS 🌶 Samples 👻 🛛 Donors 👻	Documents 👻 🛔	Storage 👻 🖍 Attributes and Protocols	- Sample	UUID							
Notice! Document Successfully Created											
■ Document Portal LIMBDOC-4 I Edit Details Lock				Created Or Created By: Jo							
Document Information 🔊 History											
Document Name:	Enrichment of Tyro Dynamics	sine Phosphorylated Peptides for Quantita	ative Mass Spectron	netry Analysis of RTI	K Sig						
Document Description:		tocol for the Enrichment of Tyrosine Phosphorylated Peptides for Quantitative Mass Analysis of RTK Signaling Dynamics.									
Document Type:	Processing Protoco	ו									
Author:	Joe Bloggs  🅲										
Ø Document Files											
File		MD5 Checksum ?	Uploader	Created On	A						
NationalClinicalCodingTrainingHandbook_201	19-20pdf	486a82067eea8cd490a56e50d48dd7db	Joe Bloggs 🔘	2022-02-10	٦						

Congratulations, you have successfully added a new Document to LImBuS!

## 2.3.2 Uploading a new Document

If you have an existing Document that you would like to upload a file to, then you can by simply clicking the 'Upload File' button beneath the Document header:

	S Samples -	2 Donors	<ul> <li>Documents</li> </ul>	💾 Storage 👻	🔗 Attributes and
Docume LIMBDO					
🕑 Edit Details	🏦 Upload File	🔒 Lock			

Once you have clicked on the button, you should be greeted with an 'New File' page:

🖄 LlmBuS	🔗 Samples 👻	\rm Donors 👻	Documents 🝷	💾 Storage 🝷	Attributes and Prot	ocols <del>-</del>	Sample UUID	0 -
LIMBDOC- <b>1</b> New Fi	4 le							
Document File (*)								
			Browse	No file selected				
								✓ Upload

You can either:

- 1. Drag a file from your computer to the grey box.
- 2. Click on the grey box and find the file you want to upload through your Operating Systems file explorer.

Once you have found the file, click the Green 'Upload' button on the bottom right of the form. If successful, you should now see your new file in the 'Document Files' table.

## 2.4 Attributes and Protocols

Something here.

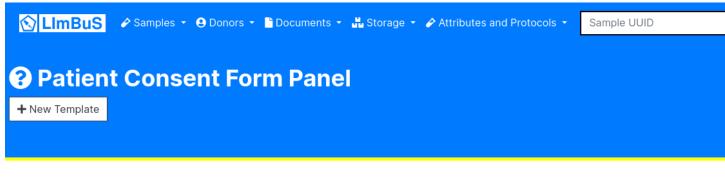
- Consent Management
- Attribute Portal
- Protocol Portal
- Diagnostic Procedures

## 2.4.1 Consent Management

To find the Consent Form Panel click Attributes and Protocols on the Navigation Bar. You should see a drop down:



Click 'Consent Management'. You should now be greeted with the following page:

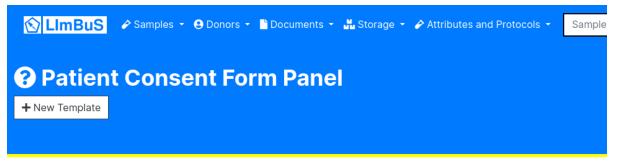


This is the Patient Consent Form Portal. This is where patient consent forms can be found.

Show 10¢ entries	Search:	
Template ↑	Uploader	$\mathbf{W}^{\mathbb{A}}$
LIMBPCF-10: joanne connell (Version: 2.0)	Joanne Connell	
C LIMBPCF-1: TEST (Version: 0.1)	Priyadharshini Sai- Giridhar	
CIMBPCF-2: HYWEL DDA BIOBANK INFORMED CONSENT FORM V4.0(08/04/2020) (Version: V4.0(08/04/2020))	Priyadharshini Sai- Giridhar	
C LINEDOF 2: test (Version: 10)	Drivedbarehini Cei	

#### **Create a new Patient Consent Form Template**

To create a new Patient Consent Form Template, click on the 'New Template' button found beneath the Patient Consent Form Panel header:



Once you have clicked on the button, you should be greeted with the New Consent Form Template submission form:

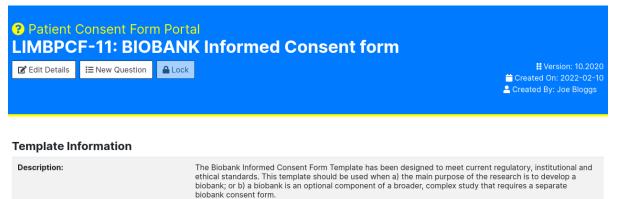
Patient Consent Form Portal New Consent Form Template	
Consent Form Title (*) Descriptive name/title for the Consent Form Template	
Description	
Template Version Version of the Protocol	
	✓ Submit

Here you can enter the following information:

- **Consent Form Title (Required):** A descriptive name/title for the template. Please ensure that this is identifiable as it'll make indexing and selection far earlier later on.
- **Description:** A description for the Consent Form Template. This isn't mandatory, but if you have many users from multiple sites, it's highly recommended that you take the time to describe what the consent form is for.
- **Template Version:** If you are uploading a newer or older version of an existing Consent Form Template then you may want to provide a version. This will make it clear what version of a Consent Form Template is where Consent Form Titles are not unique.

Once you have finished entering this information, press the green 'Submit' button on the bottom right of the form.

If successful, you should now be able to see your newly created Consent Form Template in the Consent Form Template Portal



#### Adding a New Question to a template

If you would like to make use of granular indexing and filtering based on consent, you can provide digitised versions of questions directly to the Consent Form Template.

To do this, select a Patient Consent Form template that you wish to add questions to. Then click on the 'New Question' button beneath the template heading:

Patient Consent Form Portal LIMBPCF-11: BIOBANK Informed				
🕼 Edit Details	I≡ New Question	🔒 Lock		

You should now be greeted with the 'New Consent Form Question' form:

<b>7</b> LIMBPCF-11 New Consent Form Question	
Question (*)	
Question Type Something here detailing what each of these does and why.	
Standard	•
	✓ Submit

Here you will be asked to submit the following:

- Question (required): The question on the consent form. This can be in both long and short form, but please ensure that the person involved in entering the data understands what the question is and how it relates to the its actual physical form.
- Question Type: One of Standard, Electronic Storage, Genetic Tests, Future Samples, and Available for External Sources

Once you have entered all of the relevant information, click on the green 'Submit' button found at the bottom right of the form to submit the question.

Your new question should now appear in the Questions table.

#### What are the Question Types?

By default LImBuS offers the following Question Types:

- Standard: A generic question.
- Electronic Storage: That the donor has consented to their information being electronically stored.
- Genetic Tests: That the donor has consented to their samples and information bing used for genetic studies.
- Future Samples: That the consent form allows for the future extraction of Samples.
- Available for External Sources: That the donor has agreed that the Sample can be shared outside of the biobank.

#### 2.4.2 Attribute Portal

To find the Attribute Panel click Attributes and Protocols on the Navigation Bar. You should see a drop down:



Click 'Attribute Portal'. You should now be greeted with the following page:

## 2.5 Storage Portal

## 2.6 Administrator Panel

# chapter $\mathbf{3}$

Application Programming Interfaces

LImBuS exposes a REStful API to allow for programmable access to common functions.

## CHAPTER 4

## Additional Support

Learn more about configuring LImBuS, and find information about some of the issues you may be struggling with.

## 4.1 Support

#### 4.1.1 Usage Questions

If you have questions about how to use LImBuS, or have an issue that isn't related to a bug - feel free to email us - and we'll try and get back to you as soon as possible.

#### 4.1.2 Bug Reports

Part of being free and open is our willingness to participate in public bug tracking. We make use of GitHub to help orchestrate development of LImBuS. If you would like to submit a bug report then you are required to sign up, but don't worry - it's complete free to use.

We understand that many of our users are going to be new to to this, and understand that it may be difficult to submit your first bug. We advise that you follow this simple step-by-step guide to get started:

- 1. Visit the "Issues" page on our GitHub.
- 2. Search the issue list to ensure that your report hasn't been filed already. If your report has already been filed by someone else, comment that you are experiencing the same problem so we know that you're also affected.
- 3. If you believe your bug is a new one, then feel free to create a "New Issue". Type in a complete (more on this shortly) summary and description of your issue and submit it.

#### What makes a good issue?

Here are a couple of pointers on how to submit a good issue:

- **Specific Summary:** Think of the summary as the title of the issue you're reporting. It's important to be specific because it makes our lives easier when searching. Submitting a summary like "it doesn't work" doesn't really help us achieve that. Instead consider something like "Unable to submit transfer request" or "Error when viewing User Profile".
- **Provide Information:** Provide as much information you can including, where appropriate, the error (in full) that has been thrown.
- Help us Help you: We may ask you to provide more information. Failure to assist will likely lead to us closing the issue, even if the problem hasn't been fixed.

## 4.1.3 Feature Requests

Feel free to submit a feature request using our GitHub's Issues page. We ask that you are respectful when making a request, and not provide negative feedback about existing features - instead please use positive language - and present it in a way that will get us excited to add your feature to our project.

## 4.1.4 Priority Support

If you would like to find out more about sponsoring the project for priority support, feel free to drop us an email and we'll get back to you with more information.

## 4.2 Frequently Asked Questions

## 4.2.1 Is this really free?

Yes.

Forever.

And always.

## 4.2.2 Can I bulk import Samples?

Sure. Pretty much everything you can do using the web interface can be achieved programmatically using the LImBuS API. If you need help with this, feel free to ask for help on our "Issues" page.